E/CONF.39/A/43
29 Sept. 1962
ORIGINAL : ENGLISH

UNITED NATIONS CONFERENCE
ON THE APPLICATION OF SCIENCE AND TECHNOLOGY
FOR THE BENEFIT OF THE LESS DEVELOPED AREAS

Agenda Item: A.5.1.4

Nigeria

THE TRAINING OF GEOLOGISTS, MINING ENGINEERS AND SUPPORTING TECHNICIANS

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Introduction

1. Mining is not very extensive in Nigeria and for the purpose of this paper mining is considered to take place in two areas only:

(a) At Jos in the Northern Region where some 30,000 people are employed mostly in tin mining from alluvial deposits.

(b) At Enugu in the Eastern Region where some 3,000 people are employed in underground coal mining.

2. In the North few Nigerians are qualified mining engineers with qualifications which would be internationally recognised. Most of the personnel employed in running the tin mining companies are expatriates.

3. In Enugu only a few expatriates are now employed in running the mine, and of the four colliery managers three are Nigerians. The Nigerian Coal Corporation has enough Nigerians qualified to run its mines or to meet any expansion in the future.

4. Under the plan to develop Nigeria the exploitation of her mineral resources will need to be given serious consideration and so far the following projects are under consideration:

(a) Exploiting the iron ores by setting up an iron and steel industry.
(b) Exploiting the lead-zinc deposits at Abakaliki (Eastern Region).

Many more projects will be suggested, many more mineral deposits will probably be discovered and many more mining engineers and supporting technicians will be required in the future.

5. Under the present system of recruitment mining personnel are made available by:

(a) Recruiting qualified expatriates.
(b) Sending indigenous personnel overseas to obtain the required qualifications.

These methods of recruitment can only be short term policy and are satisfactory while only relatively small numbers of engineers are required. When the country claims to be developed then the method of recruitment is better if personnel are employed from engineers trained in the country concerned since:

(a) This method is cheaper where large numbers of trained personnel are required.
(b) The personnel will have studied the conditions existing in their own country and would not need the period of readjustment required by personnel trained overseas.

6. This paper will now consider the existing facilities available for training of geologists, mining engineers and supporting technicians in this country.

PRESENT TRAINING FACILITIES

The Training of Geologists.

7. The fact that there are very few Nigerians who are trained geologists has now been recognised and the work has now been taken in hand by the University of Nigeria who now have a department of geology at (Nsukka). The problem will be whether enough candidates will be forthcoming who have studied the requisite subjects at school (i.e) physics, chemistry, biology etc., since science seems to be a neglected subject in Nigerian schools. However, the setting up the geology department at university is an attempt to meet the need for trained indigenes and is a move in the right direction.

Training of Mining Engineers.

8. There is no department or institution in Nigeria which trains mining engineers who would be internationally recognised, nor is it possible to date to qualify through a course of training to become a mine manager of a tin or coal mine. The courses available in mining at present only supply the mining industry (tin and coal) with junior mining personnel and junior inspectorate (tin mining).

Tin Mining.

9. The Federal Mining School, Jos provides a course of training in mining with

particular reference to alluvial tin mining. The course is of two years duration and is a full time course. Students come from the tin mining companies and from the Mines Inspectorate department. On gaining the diploma from the school students from the mining companies then proceed to the field to gain practical experience and after this he may take the section 38 (mines act) managers examination to qualify for a certificate of mine management. The inspectorate personnel come to the school as technical officers and on gaining the diploma may be considered for promotion to junior inspectors of mines.

10. The school is well housed and has reasonable laboratories, extensions are being made under the six year development plan. The mineral dressing plant attached to the school is very well equipped with expensive ore dressing equipment for treating the tin sand.

11. The personnel at the school consist of a Nigerian principal, one Nigerian full time instructor, one expatriate part-time instructor who also runs the mineral dressing plant for the treatment of ore, one expatriate part-time instructor who also acts as chemist for the mines department.

Coal Mining

12. The Nigerian Coal Corporation at Enugu undertakes the training of its own personnel engaged in mining as far as is required to qualify for the Nigerian Second Class Certificate of Competency (Under-managers Certificate). Efforts are being made to introduce a mine managers (coal) certificate or Nigerian First Class Certificate of Competency. The course run by the Coal Corporation is of five years duration for the second class certificate and students attend classes on two days per week and spend the rest of the time in gaining practical experience. If the Nigerian First Class Certificate of Competency comes into being the course will be extended by either one or two years thus making the course a six or seven year one.

13. The mining school is badly housed and ill equipped to study the basic or mining subjects of the curriculum. It is doubtful whether the school is sufficiently well equipped to take the students through the first three years of the course.

14. The mining school personnel consists of one full time expatriate lecturer.

Supporting Technicians

15. Of the technicians who support the mining engineers in keeping the mines operating only the mechanical and electrical engineering staff receive any theoretical and practical training for their jobs. The practical training is given in the form of an apprenticeship and theoretical training in engineering principles can be obtained at the local Government Technical Institute where City and Guilds Certificates can be obtained in certain engineering subjects. The Institutes are endeavouring to introduce courses leading to O.N.C. certificates in engineering subjects. These courses are usually taken by means of evening study since part time day courses are non existent at these Institutes.

Conclusions

16. The only training given within Nigeria to mining personnel is:

(a) Through the Nigerian Coal Corporation's Training scheme.

(b) At the Federal Mining School, Jos.

Neither of these schemes produce personnel who would be universally regarded as trained mining engineers.

17. Nigeria is reliant upon expatriate mining engineers and indigenous mining engineers trained overseas for the exploitation of her mineral resources.

18. The amount of mining carried out at present probably does not justify any alteration in the present system of training. However, if mineral resources are to be fully exploited and mining carried out on an extensive scale, there will be a need for a definite policy on the training of mining engineers. This could probably be done by the Federal Mines Department making itself responsible for the training of mining engineers for Nigeria as a whole or the forming of a mining department at one of the existing colleges of technology or universities.

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